

POLLUTANTS	PERMISIBLE EMISSIONS (TONS/YEAR) 546.02 471.30 1,439.00 1,264.22				
PM <sub>10</sub>					
$SO_2$					
NO <sub>X</sub>					
СО					
VOC	41.01				
Lead	0.03				
HC1	47.78				
Benzene	5.46				
Total HAP's	54.82				

### Section V Reporting Requirements

A. As specified under Rule 112(B) of the RCAP, Essroc must submit a compliance certification, incorporating all requirements specified in this permit, on first of April of each year. Such certification must contain a certification by the responsible official of its truth, accuracy and completeness, as specified under Rule 602(c)(3) of the RCAP.

## Section VI Specific Permit Conditions

## A. Compliance with Rule 404 of the RCAP

- 1. Essroc shall use water or suitable chemicals for chemical stabilization and the control of dust in construction operations, quarrying operations, the grading of roads or the clearing of land.
- 2. Essroc shall apply asphalt, water, or suitable chemicals and use vegetation on dirty roads or roads under construction, materials, stockpiles, and other surfaces which can give rise to airborne dust.
- 3. Essroc shall cover, at all times when in motion, open bodied trucks transporting materials likely to give rise to airborne dusts.
- 4. Essroc shall pave roadways and maintain them in clean conditions.
- 5. Essroc shall remove promptly earth or other material from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, by erosion by water, or by other means.

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- 6. When air pollutants escape from a building or equipment and cause a nuisance or violate any regulations, the Board may order that the building or equipment in which processing, handling, and storage are done, be tightly closed and/or ventilated so that all emissions from the building or equipment are controlled to remove or destroy such air pollutants before being discharged to the open air. The implementation of this measure should not create occupational health hazards.
- 7. Every area, lot, or part of a piece of land intended for parking with a capacity greater than 900 square feet must be paved with concrete, asphalt, equivalent hard surface or chemical stabilization on all its access and internal roads where unpaved traffic adjoin paved roadways and parking areas.



### Prevention of Significant Deterioration (PSD) Non applicability Conditions<sup>4</sup>

- 1. The maximum plant-wide<sup>5</sup> cement production shall not exceed 850,000 tons/ 365 days.
- 2. Only Kiln No. 3 (EU501) shall be used at the facility to produce clinker that will be ground ant it shall not exceed 726,117 tons of cement/ 365 days. (Kiln 1 and 2 were permanently decommissioned in 1991.)
- 3. The additional clinker needed to achieve the 850,000 tons/365 days of cement production shall be supplied from sources outside of the plant. No increase in clinker production from Kiln No. 3 (EU501) shall be allowed in order to meet this increased production.
- 4. Each of the emission units listed in the attached table of Appendix II PSD Non Applicability Restrictions shall be operated with the particulate control equipment specified in the same table of Appendix II. The particulate control equipment shall be operated and maintained following good engineering practices.
- 5. Each of the emissions units listed in the attached table of Appendix II PSD Non Applicability Restrictions shall not exceed the maximum hours of operation specified in the same table on a 365-day rolling average basis. Hours of operation per rolling 365-day period shall be calculated by the sum of operations during any one calendar day added to the sum of operations during the previous 364 calendar days. Essroc shall maintain a daily log where the daily hours of operation of each of the listed equipment under Cement Mills No. 2, No. 3, and Packaging Lines No. 1 and No. 2 shall be recorded. (The actual hours of operation for the units listed under Other Equipment are back calculated from final throughput numbers.)

<sup>&</sup>lt;sup>4</sup> August 13, 2002 PSD Non Applicability Revision.

<sup>&</sup>lt;sup>5</sup> For purposes of this section the terms "plant-wide" or "facility wide" refers only to all the equipment listed in the table of Appendix II titled PSD Non Applicability Restrictions.

- 6. All the listed equipment shall not exceed the maximum amount of throughput specified in the table on a 365-day rolling average basis. Maximum throughput per rolling 365-day period shall be calculated by the sum of operations during any one calendar day added to the sum of operations during the previous 364 calendar days. Essroc shall maintain a daily log where the daily throughput for each of the listed equipment shall be recorded.
- 7. In order to provide for "operational flexibility" in the use of a particular cement mill and/or packing circuit, Essroc is allowed to shift cement production from one cement mill circuit and/or packing circuit to another and exceed the unit specific limits required by conditions 5 and 6 above, if it complies with the following requirements:
  - a. Essroc will inform EQB and EPA in writing that Essroc has selected to implement condition 7 of this section. Thereafter, if Essroc chooses to return to implementing conditions 5 and 6, a second written notification will be required.
  - b. While Essroc will no longer be restricted to a unit specific maximum hours of operation and maximum production throughput listed in the table of Appendix II PSD Non Applicability Restrictions, summation of the operational circuits and other emission units identified as "Other Equipment" in the table of Appendix II shall not exceed 159.4 tons and 145.5 tons for TSP and PM<sub>10</sub>, respectively per 365-day period on a rolling average basis calculated every day.
  - c. Essroc must keep a daily log of all actual hours of operation for each operational circuit as well as each emission units identified as Other Equipment listed in the table of Appendix II PSD Non Applicability Restrictions (even if the operational circuits and/or units are not operating on that particular day). Hours of operation for the units listed under Other Equipment are back calculated based on actual throughput on those units.
  - d. Essroc must calculate the plant-wide daily TSP and PM10 emissions for each individual operational circuit and the emissions associated from the units in Other Equipment in the table of Appendix II PSD Non Applicability Restrictions using the emission factors derived from the May 18, 1998 PSD non-applicability request. To determine the TSP and PM10 emissions based on a 365-day rolling average basis for each operational circuit and the units identified as Other Equipment, the plant-wide daily TSP and PM10 emissions of a particular day must be added to the sum of emissions during the previous 364 calendar days.
  - e. Essroc shall notify EPA and EQB in writing, within 7 days of its occurrence, when actual emissions of TSP and/or PM<sub>10</sub> have exceeded 159.4 tons/365 days and 145.5 tons/365 days, respectively.

- f. As a "proactive" management tool to help Essroc take precautionary measures so that it will not exceed the 365-day TSP and PM<sub>10</sub> emission limits, Essroc must determine the maximum expected cement production (production forecast) for a given period based on the following:
  - i. If actual annual cement production at this facility is less than 95% of the maximum allowable limit of 850,000 tons/365 days (i.e. 807,500 tons/365 days), calculated on a monthly basis, Essroc shall determine a 12-month cement production forecast, updated quarterly. This production forecast shall be used to calculate the expected facility-wide emissions (also as a 12-month emission projection, updated quarterly), for TSP and PM<sub>10</sub> to ensure that Essroc will not exceed the 365-day facility-wide limits for each respective pollutant. The production forecast must be in writing and must include the expected emissions of each unit for the following quarter as well as calculations reflecting the emission factors derived from the May 18, 1998 PSD applicability request and must demonstrate that the sum of all operations/circuits and other emission units identified as Other Equipment will not exceed the maximum TSP and PM<sub>10</sub> limits in the foreseeable future. Essroc shall maintain each production forecast record and the required emission calculations for a period of at least 5 years.
  - ii. If actual annual cement production at this facility is equal or greater than 95% of the maximum allowable limit of 850,000 tons/365 days (i.e. 807,500 tons/365 days), calculated on a 12-month rolling basis, Essroc shall determine a monthly cement production forecast. This production forecast shall be used to calculate the expected facility-wide emissions for TSP and PM<sub>10</sub> on a monthly basis to ensure that Essroc will not exceed the 365-day facility-wide limits for each respective pollutant before actual cement production starts for the next month. The production forecast must be in writing and must include the expected emissions of each unit for the following quarter as well as calculations reflecting the emission factors derived from the May 18, 1998 PSD applicability request and must demonstrate that the sum of all operations/circuits and other emission units identified as Other Equipment will not exceed the maximum TSP and PM<sub>10</sub> limits in the near future. Essroc shall maintain each production forecast record and the required emission calculations for a period of at least 5 years.
  - g. In addition to making enforcement action under the Clean Air Act or the Puerto Rico Implementation Plan (PRSIP), EPA and/or EQB may revoke this condition 7at any time if it is determined that Essroc does not keep sufficient daily records to determine compliance with the 365-day rolling average limits of if the EPA or EQB, in their discretion, determine that this operational flexibility alternative lacks sufficient enforceability.

- 8. The daily logs and all calculations/ records required in this section shall be kept on site for a period of at least 5 years and shall be made available to EPA or EQB inspectors upon request.
- 9. In accordance with 40 CFR §52.21(r)(4) relaxation of any of the above conditions or restrictions may subject the source or modification to PSD as though construction had not yet commenced on the source or modification.<sup>6</sup>
- 10. Essroc shall keep the supplier purchase receipts showing the amount of clinker acquired. <sup>7</sup>
- 11. As determined by Rule 603(a)(4)(ii) of the RCAP, Essroc shall keep the records of all required monitoring data and support information for a period of 5 years from the date of the monitoring sample, measurement, report, or application.

# C. Standards of Performance for Nonmetallic Mineral Processing Plants (40 CFR part 60, subpart OOO)

1. F107, F108, F224, EU202, EU203, EU205, EU206, EU207, EU208, EU210, EU211, EU212, EU213, EU214

Condition	Parameter	Value	Units	Test Method	Frequency of the Method	Recordkeeping Requirements	Reporting Frequency
Opacity limit for transfer points on belt conveyors	Opacity	10	Percent	Method 22 Method 9	Monthly If visible emissions are observed during any Method 22 test.	With each opacity reading.	Sixty days after each reading.

- a. Essroc shall not exhibit greater than 10% opacity from the following transfer point on belt conveyors F107, F108, F202, F224, EU202, EU203, EU205, EU206, EU207, EU208, EU210, EU211, EU212, EU213, and EU214, according to 40 CFR §60.672(b).
- b. Essroc must conduct a monthly 1-minute visible emissions test of each affected source in accordance with Method 22 of Appendix A to part 60. The test must be conducted while the affected source is in operation.

<sup>&</sup>lt;sup>6</sup> Conditions from 1 to 9 are incorporated from the August 13, 2002 Revision when the PSD Non-Applicability Restrictions were revised.

<sup>&</sup>lt;sup>7</sup> PFE-26-0189-0051-I-II-C modification of December 22, 1998, which includes the <u>PSD Non Applicability Restrictions</u>.

Sources cited on section VI.C.1.Essroc San Juan, IncPage 26 of 69

every six months the flow meter in accordance with the manufacturer's specifications and maintain the records of the periodic calibrations available for EQB review.

- f. As specified under Rule 603(a)(4)(ii) of the RCAP, Essroc shall keep all records of required monitoring data and supporting information for a period of 5 years from the date of the monitoring sample, measurement, report or application. This includes a record with the results of the fuel performance test, a record of monthly fuel consumption and sulfur content of consumed fuels and the results and methodology of flow meter calibrations for any combustion unit.
- g. Essroc shall submit to EQB, within the first 15 days of the month following the one being reported, a monthly report indicating the daily fuel consumption and the sulfur content by weight, for the fuel consumed. This report shall be addressed to the Chief of the Data Validation and Mathematical Modeling Division of the Area of Evaluation and Strategic Planning and shall be kept available at any time at the facility for EQB and EPA revision.

## 4. EU501 (Feed System to Kiln 3)<sup>12</sup>

Condition	Parameter	Value	Units	Test Method	Frequency of the Method	Recordkeeping Requirements	Reporting Frequency
Sulfur limit	S	1.0 (carbon)  0.5 (fuel oil and diesel)	Percent by weight	Record of fuel supplier certificate	With each fuel receipt	Daily	Monthly
Fuel consumption	Carbon	90,000	Tons per year	Consumption record	Monthly	Record	Annual

 $<sup>^{12}</sup>$  Emission unit EU501 is made up of two burners in the precalcination area and one main burner in the kiln with a total thermal capacity of 553 MMBtu/hr.

Condition	Parameter	Value	Units	Test Method	Frequency of the Method	Recordkeeping Requirements	Reporting Frequency
limit	Used Oil	18,851,691	Gallons per year				
	Diesel	40,000	Gallons per year	4	Desire 1 1 1	to"	

- a. Essroc shall not burn or permit the use of fuels with a sulfur content exceeding 1.0% by weight for carbon and 0.5% by weight for used oil and diesel. [PFE-26-0189-0051-I-II-C]
- b. Essroc shall keep a copy of the fuel supplier certification indicating the fuel sulfur content to demonstrate compliance with the requirement of keeping a daily record of the sulfur content in the diesel. Essroc shall obtain an analysis of the sulfur content with each receipt of fuel using Method ASTM 4294 or ASTM 2880-71.
- c. Essroc shall not exceed the consumption limit of 40,000 gallons of diesel for the preheating of unit EU501 for any consecutive 12 month rolling period. The fuel consumption for any consecutive 12 month period shall be calculated by adding the monthly consumption to the total fuel consumption for the previous 11 months. [PFE-26-0189-0051-I-II-C].
- d. Essroc shall not exceed the consumption limit of 90,000 tons for unit EU501 for any consecutive 12 month rolling period. The carbon consumption for any consecutive 12 month period shall be calculated by adding the monthly consumption to the total carbon consumption for the previous 11 months. [PFE-26-0189-0051-I-II-C].
- e. Essroc shall not exceed the consumption limit of 18,851,691 gallons (69.657 tons/year) of used oil for unit EU501 for any consecutive 12 month rolling period. The fuel consumption for any consecutive 12 month period shall be calculated by adding the monthly consumption to the total fuel consumption for the previous 11 months. [PFE-26-0189-0051-I-II-C].
- f. The use of used oil as fuel is authorized only for unit EU501. Essroc shall not feed used oil to unit EU501 during periods of preheating, startup or shutdowns. [PFE-26-0189-0051-I-II-C]
- g. Unit EU501 shall be provided with a fuel flow meter to verify the used oil and diesel consumption. Essroc shall calibrate every six months the flow meters in accordance with the manufacturer's specifications and maintain the records of the periodic calibrations available for EQB review.

- h. Essroc shall keep a record of each switch from carbon to used oil or vice versa in the two burners of the precalcination area and the main burner in kiln EU501 (Kiln 3). The record shall include the following:
  - i. Date of the fuel switch,
- ii. Time (hour) of startup, and
- iii. Amount of fuel consumed.

This record shall be maintained readily accessible at the facility for EQB revision.

- i. Essroc shall submit to EQB, within the first 15 days of the month following the one being reported, a monthly report indicating the daily fuel consumption and the sulfur content by weight, for the fuel consumed in unit EU501. This report shall be addressed to the Chief of the Data Validation and Mathematical Modeling Division of the Area of Evaluation and Strategic Planning and shall be kept available at any time at the facility for EQB and EPA revision.
- j. Essroc shall keep readily accessible at the facility the used oil analysis certifying that the fuel is not classified as hazardous waste as defined in section 261.3 of 40 CFR.
- k. In the case that the used oil is classified as hazardous waste, Essroc shall comply with the applicable requirements in 40 CFR part 63, subpart EEE: National Emission Standards for Hazardous Atmospheric Pollutants for Hazardous Waste Combustors.
- 1. The Board reserves its right to require additional tests or analysis in order to demonstrate compliance with the national air quality standards and determine the pollutants emissions to the atmosphere.
  - m. As specified under Rule 603(a)(4)(ii) of the RCAP, Essroc shall keep all records of required monitoring data and supporting information for a period of 5 years from the date of the monitoring sample, measurement, report or application. This includes a record with the results of the fuel performance test, a record of monthly fuel consumption and sulfur content of consumed fuels and the results and methodology of flow meter calibrations for any combustion unit.
  - n. According to Rule 603(a)(5) of the RCAP, Essroc shall submit reports of any required monitoring every six months, or more frequently if required by the underlying applicable requirement or by the Board. All instances of deviations from permit requirement must be clearly identified in such

reports. All required reports must be certified by a responsible official according to Rule 602(c)(3) of the RCAP.

## Section VII - National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry

#### A. Operation and Maintenance Requirements (40 CFR subpart A, section 63.6)

- At all times, including periods of startup, shutdown, and malfunction<sup>13</sup>, Essroc 1. must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires that Essroc reduce emissions from the affected source to the greatest extent, which is consistent with safety and good air pollution control practices. The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require Essroc to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good air pollution control practices, nor does it require Essroc to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to EOB and EPA which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the startup, shutdown, and malfunction plan required in paragraph (e)(3) of section 63.6), review of operation and maintenance records, and inspection of the source. [40 CFR §63.6(e)(1)(i)]
- 2. Malfunctions must be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan required in paragraph (e)(3) of section 63.6 of 40 CFR. To the extent that an unexpected event arises during a startup, shutdown, or malfunction, Essroc must comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices. [40 CFR §63.6(e)(1)(ii)]
- 3. Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.<sup>14</sup> [40 CFR §63.6(e)(1)(iii)]

<sup>&</sup>lt;sup>13</sup> According to 40 CFR §63.2, a malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

<sup>&</sup>lt;sup>14</sup> According to 40 CFR §63.2, a relevant standard means an emission standard; an alternative emission limitation; or an equivalent emission limitation established pursuant to section 112 of the Act that applies to the stationary source, the group of stationary sources, or the portion of a stationary source regulated by such standard or limitation. A relevant standard may include or consist of a design, equipment, work practice, or Essroc San Juan, Inc

- 4. Startup, shutdown, and malfunction plan. Essroc must develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and air pollution control and monitoring equipment used to comply with the relevant standard. Essroc must develop this plan by the source's compliance date for that relevant standard. [40 CFR §63.6(e)(3)(i)]
- 5. During periods of startup, shutdown, and malfunction, Essroc must operate and maintain such source (including associated air pollution control and monitoring equipment) in accordance with the procedures specified in the startup, shutdown, and malfunction plan developed under paragraph (e)(3)(i) of section 63.6. [40 CFR §63.6(e)(3)(ii)]
- When actions taken by Essroc during a startup, shutdown, or malfunction 6. (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, Essroc must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a checklist, or other effective form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan for that event. In addition, Essroc must keep records of these events as specified in section 63.10(b), including records of the occurrence and duration of each startup, shutdown, or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, Essroc shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the affected source's startup, shutdown and malfunction plan in the semiannual (or more frequent) startup, shutdown, and malfunction report required in Sec. 63.10(d)(5). [40 CFR §63.6(e)(3)(iii)]
- 7. If an action taken by Essroc during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, and Essroc exceeds any applicable emission limitation in the relevant emission standard, then Essroc must record the actions taken for that event and must report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with section 63.10(d)(5) (unless Essroc makes alternative reporting arrangements, in advance, with EPA and EQB. [40 CFR §63.6(e)(3)(iv)]

- 8. Essroc must maintain at the affected source a current startup, shutdown, and malfunction plan and must make the plan available upon request for inspection and copying by EOB or EPA. In addition, if the startup, shutdown, and malfunction plan is subsequently revised as provided in paragraph (e)(3)(viii) of section 63.6, Essroc must maintain at the affected source each previous (i.e., superseded) version of the startup, shutdown, and malfunction plan, and must make each such previous version available for inspection and copying by EQB or EPA for a period of 5 years after revision of the plan. If at any time after adoption of a startup, shutdown, and malfunction plan the affected source ceases operation or is otherwise no longer subject to the provisions of part 63, Essroc must retain a copy of the most recent plan for 5 years from the date the source ceases operation or is no longer subject to this part and must make the plan available upon request for inspection and copying by EQB or EPA. EQB or EPA may at any time request in writing that Essroc submit a copy of any startup, shutdown, and malfunction plan (or a portion thereof) which is maintained at the affected source or in the possession of Essroc. Upon receipt of such a request, Essroc must promptly submit a copy of the requested plan (or a portion thereof) to EOB and EPA. EOB or EPA must request Essroc submit a particular startup, shutdown, or malfunction plan (or a portion thereof) whenever a member of the public submits a specific and reasonable request to examine or to receive a copy of that plan or portion of a plan. Essroc may elect to submit the required copy of any startup, shutdown, and malfunction plan to EQB and EPA in an electronic format. If Essroc claims that any portion of such a startup, shutdown, and malfunction plan is confidential business information entitled to protection from disclosure under section 114(c) of the Act or 40 CFR 2.301, the material which is claimed as confidential must be clearly designated in the submission. [40 CFR  $\S63.6(e)(3)(v)$
- 9. To satisfy the requirements of section 63.6 to develop a startup, shutdown, and malfunction plan, Essroc may use the affected source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of section 63.6 and are made available for inspection when requested by EQB or EPA. [40 CFR §63.6(e)(3)(vi)]
- 10. According to 40 CFR §63.6(e)(3)(vii), and based on the results of a determination made under paragraph (e)(1)(i) of section 63.6, EQB or EPA may require that Essroc make changes to the startup, shutdown, and malfunction plan for that source. EQB or EPA may require reasonable revisions to a startup, shutdown, and malfunction plan, if EQB or EPA finds that the plan:
  - a. Does not address a startup, shutdown, or malfunction event that has occurred;
  - b. Fails to provide for the operation of the source (including associated air pollution control and monitoring equipment) during a startup, shutdown,